

In the Claims:

1. (Currently Amended) A planar antenna assembly for use in two different frequency bands, the planar antenna assembly comprising:

a printed circuit board having a ground plane and rf circuitry thereon;

a patch antenna spaced from the ground plane, the patch antenna not having any slot; and

a feed for coupling the patch antenna to the rf circuitry, the feed comprising components that are physically attached to a main surface of the patch antenna, the components for reactively tuning the patch antenna by tuning a first frequency inductively and a second frequency capacitively, the first frequency being lower than the second frequency; and

a shorting tab electrically connected between the ground plane and the patch antenna.

wherein the shorting tab electrically connects to the patch antenna adjacent to a connection point of the feed, the shorting tab performing an impedance transformation.

2. (Previously Presented) The antenna assembly as claimed in claim 1, wherein the components comprise a series connected, parallel L-C network.

3. (Currently Amended) A communications apparatus comprising:

a housing;

a printed circuit board (PCB) within the housing, the printed circuit board having a ground plane and rf circuitry disposed thereon;

a planar antenna within the housing spaced from the ground plane, the planar antenna not having any slot;

a dielectric between the PCB and the planar antenna; and

a feed coupling the planar antenna to the rf circuitry, the feed comprising components that are physically attached to a main surface of the planar antenna, the components for reactively tuning the planar antenna by tuning a first frequency inductively and a second frequency capacitively, the first frequency being lower than the second frequency; and

a shorting tab electrically connected between the ground plane and the planar antenna,
wherein the shorting tab electrically connects to the planar antenna adjacent to a connection point of the feed, the shorting tab performing an impedance transformation.

4. (Previously Presented) The apparatus as claimed in claim 3, wherein the components are located adjacent the dielectric.

5. (Canceled)

6. (Previously Presented) The apparatus as claimed in claim 3, wherein the planar antenna is a planar inverted-L antenna (PILA).

7. (Previously Presented) The apparatus as claimed in claim 3, wherein the components comprise a series connected, parallel L-C network.

8. (Previously Presented) The apparatus as claimed in claim 3, wherein the components comprise a transmission line.

9. (Currently Amended) An rf module comprising:

a printed circuit board (PCB) having a ground plane and rf circuitry thereon;

a planar antenna spaced from the ground plane, the planar antenna not having any slot;

a dielectric in a space between the PCB and the planar antenna; and

a feed coupling the planar antenna to the rf circuitry, the feed comprising components that are physically attached to a main surface of the planar antenna, the components for reactively tuning the planar antenna by tuning a first frequency inductively and a second frequency capacitively, the first frequency being lower than the second frequency; and

a shorting tab electrically connected between the ground plane and the planar antenna,
wherein the shorting tab electrically connects to the planar antenna adjacent to a connection point
of the feed, the shorting tab performing an impedance transformation.

10. (Previously Presented) The module as claimed in claim 9, wherein the components are located adjacent the dielectric.

11. (Previously Presented) The module as claimed in claim 9, wherein the components comprise a series connected, parallel L-C network.

12-13 (Canceled)

14. (Previously Presented) The apparatus as claimed in claim 3, wherein the dielectric is air.

15. (Canceled)

16. (Previously Presented) The module as claimed in claim 9, wherein the dielectric is air.

17. (Currently Amended) A planar antenna assembly comprising:

a printed circuit board having a ground plane and rf circuitry thereon;

a planar antenna that it is spaced from the ground plane; and

a feed for coupling the planar antenna to the rf circuitry, the feed comprising components for reactively tuning the planar antenna by tuning a first frequency inductively and a second frequency capacitively, the first frequency being lower than the second frequency, the components being physically attached to a main surface of the planar antenna; and

a shorting tab electrically connected between the ground plane and the planar antenna,
wherein the shorting tab electrically connects to the planar antenna adjacent to a connection point
of the feed, the shorting tab performing an impedance transformation.

18. (Previously Presented) The antenna assembly as claimed in claim 17, wherein the components comprise a series connected, parallel L-C network.

19. (Previously Presented) The antenna assembly as claimed in claim 1, wherein the components are physically located between the patch antenna and the ground plane.

20. (Currently Amended) The apparatus as claimed in claim 3, wherein the components are physically located between the ~~patch~~ planar antenna and the ground plane.

21. (Currently Amended) The module as claimed in claim 9, wherein the components are physically located between the ~~patch~~ planar antenna and the ground plane.

22. (Previously Presented) The antenna assembly as claimed in claim 17, wherein the components are physically located between the planar antenna and the ground plane.

23. (Previously Presented) The apparatus as claimed in claim 3, wherein the components are surrounded by the dielectric.

24. (Previously Presented) The module as claimed in claim 9, wherein the components are surrounded by the dielectric.